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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,987	10/29/2003	Masatoshi Yonekubo	117367	5325

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EXAMINER

ROY, SIKHA

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/694,987

Applicant(s)

YONEKUBO ET AL.

Examiner

Sikha Roy

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-15 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The Amendment, filed on March 3, 2006 has been entered and acknowledged by the Examiner.

Cancellation of claim 8 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4-7, 9 and 11-15 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,639,350 to Sejkora.

Regarding claims 1 and 9 Sejkora discloses (Figs. 2a, 3 column 4 lines 8-42, column 5 lines 32-41) a display element (illumination arrangement) comprising an emission layer having a light-emitting layer 7 emitting light by a voltage applied between electrodes, a transmission layer 5 that transmits light emitted from the layer 7, a total reflection surface (recesses) 6 in the transmission layer that is capable of totally reflecting at least a part of light radiated from the light-emitting layer 7 in a direction of emission of the light-emitting layers. Sejkora further discloses (column 5 lines 63-65, column 8 formula 7) the inclination angle of the total reflection surface (which is same

as  $\alpha$  in Fig. 4a) is greater than  $70.6^\circ$  considering the maximum emission angle  $\gamma_{\max} = 70^\circ$  (claim 1) and  $n_s$ , the refractive index of the structural block 5 being 1.5.

Regarding claim 2 Sejkora discloses (column 4 lines 58-61) the transmission layer includes a transparent substrate 4, the side of the transparent member facing the emission layer having recesses 6, at least one lateral surface of each recess acting as the total reflection surface.

Regarding claim 4 Sejkora discloses (Fig. 5a column 8 line 66 through line 10) the display element comprises a substrate 11 having the emission layer 15 on the surface thereof.

Regarding claim 5 Sejkora discloses (Fig. 5a column 9 lines 1-15, 26-59) the display element comprising substrate 11 having the emission layer on its surface, a bonding layer 12 that is formed between the transparent member 5 and the emission layer 15 so that a protrusion between the recesses of the transparent member is in optically close contact with the light emitting-layer.

Regarding claim 6 it is evident from Fig. 5a the thickness of the bonding layer 12 is smaller than the depth of the recesses.

Regarding claim 7 Sejkora discloses (Figs.3 and 5a) the display element comprises plurality of light-emitting layers, protrusions between the recesses being arranged at the same pitch as that of the light-emitting layers.

Regarding claim 11 Sejkora discloses (column 5 lines 32-52) the light emitting layer comprising polymer film of PPV which is an organic electroluminescent material.

Regarding claim 12 Sejkora discloses (Figs. 2a,2b, 3 column 5 lines 32-52) a display panel comprising emission layer having plurality of light emitting layers which emits light when voltage is applied between electrodes, a transmission layer that transmits light , a plurality of total reflection surfaces 5 that is capable of totally reflecting a part of light radiated from the light-emitting layers in a direction of emission. Sejkora further discloses (column 5 lines 63-65, column 8 formula 7) the inclination angle of the total reflection surface (which is same as  $\alpha$  in Fig. 4a) is greater than  $70.6^\circ$  considering the maximum emission angle  $\gamma_{\max} = 70^\circ$  (claim 1) and  $n_s$ , the refractive index of the structural block 5 being 1.5.

Claims 13 and 14 essentially recite the same limitations as of claims 2 and 7 respectively and hence are rejected for the same reason.

Regarding claim 15 Sejkora discloses (column 5 lines 33-41) the illumination arrangement having electrical voltage applied between the electrodes for exciting electroluminescence and hence inherently includes a drive unit driving the EL layer of the display panel (lighting arrangement).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2879

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 6,639,350 to Sejkora and further in view of U.S. Patent 6,906,452 to Ichikawa.

Regarding claim 3 Sejkora is silent about the recesses filled with vacuum or gas.

Ichikawa in same field of endeavor discloses (Fig. 2 column 7 lines 1-13) display device comprising emission layer, transmission layer and a total reflection surface 6 capable of totally reflecting at least a part of light radiated from the light-emitting layer in the direction of emission. Ichikawa discloses the interior of the recesses (void) is filled with gas. Ichikawa further discloses the filling of these recesses can prolong the service life of the electroluminescent device.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have the recesses of Sejkora filled with gas as taught by Ichikawa for prolonging the service life of the device.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 6,639,350 to Sejkora as applied to claim 1 above, and further in view of JP 08-321381 to Furukawa et al.

Claim 10 differs from Sejkora in that Sejkora does not exemplify the display element further comprising a circularly polarizing plate that is disposed on the transmission layer adjacent to the emerging surface.

Furukawa in the same field of endeavor discloses (Fig1. Sections [0002], [0005]) a circularly polarizing plate (linearly polarized light plate and a phase contrast plate)

Art Unit: 2879

disposed on the transmitting substrate 3. Furukawa further teaches this circularly polarized plate prevents external light reflected from the second electrode disposed below the light emitting layer and overlapping with the display and thus offers a legible organic EL display.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include a circularly polarized plate as taught by Furukawa disposed on the light emerging surface of Sejkora for preventing any external light reflected from the second electrode disposed below the light emitting layer and overlapping with the display and thus offering a legible organic EL display.

### ***Response to Arguments***

Applicant's arguments filed March 3, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that Sejkora fails to disclose or suggest an inclination angle of total reflection surface being approximately from 62 to 72 degrees, the examiner respectfully disagrees. Sejkora discloses (column 5 lines 63-65, column 8 formula 7, claim 1) the inclination angle of the total reflection surface (which is same as  $\alpha$  in Fig. 4a) is greater than  $70.6^\circ$  considering the maximum emission angle  $\gamma_{\max} = 70^\circ$  and  $n_s$ , the refractive index of the structural block 5 being 1.5.

In response to applicant's submission that Ichikawa is not a prior art because of Applicant's claimed foreign priority, the examiner respectfully notes that applicant cannot rely upon the foreign priority papers to overcome this rejection because a

Art Unit: 2879

translation of said papers has not been made of record in accordance with 37 CFR

1.55. See MPEP § 201.15.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



Art Unit: 2879

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.R.

Sikha Roy  
Patent Examiner  
Art Unit 2879

*Karabi Guharay*

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PRIMARY EXAMINER